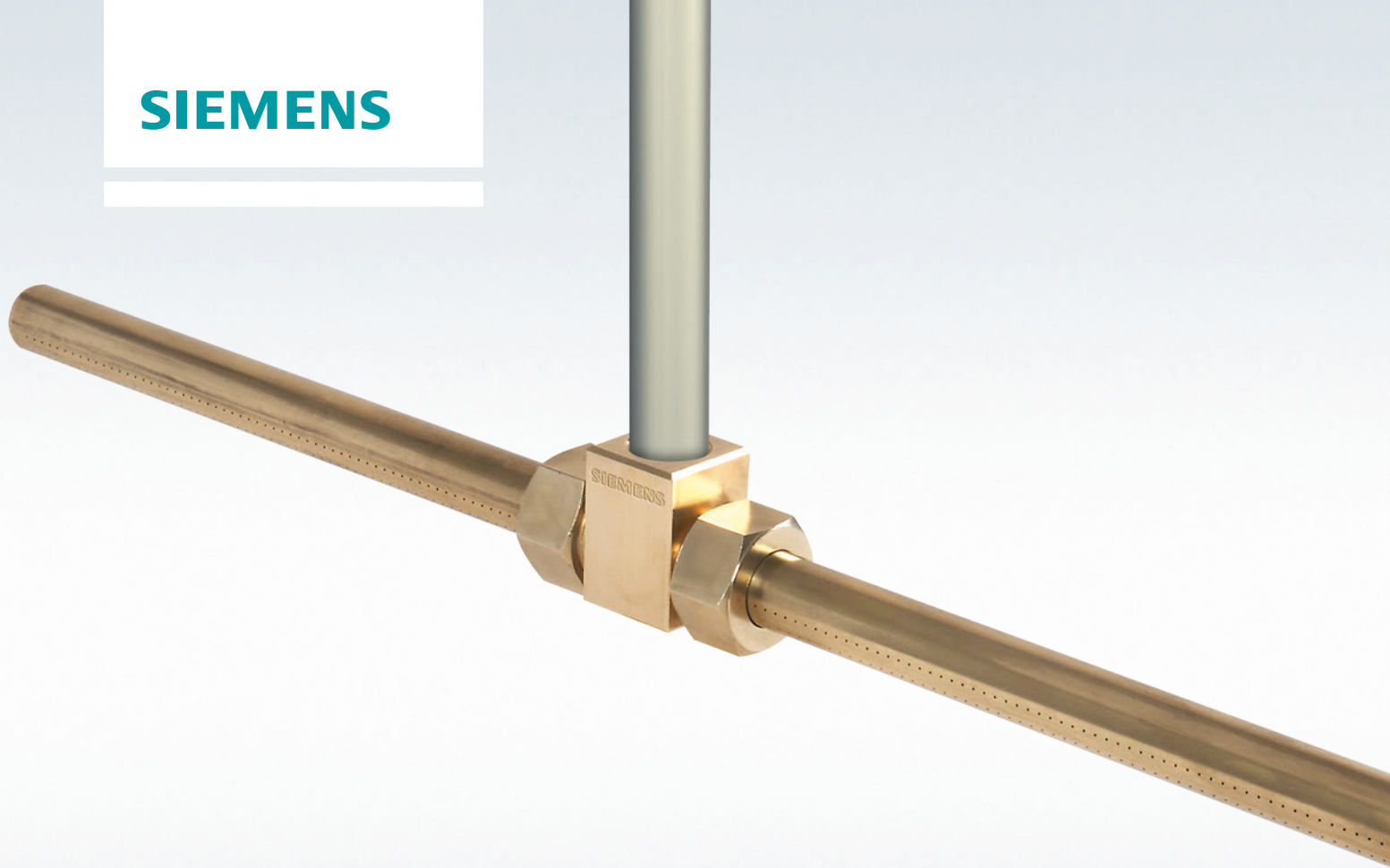


SIEMENS



Sinorix Silent Extinguishing Technology – protecting the quiet way

An intelligent offering for safe and quiet extinguishing in
data centers and server rooms.

Answers for infrastructure and cities.



Data centers and server rooms – challenges for extinguishing

Data centers and server rooms are at the heart of the modern business world. Millions of servers worldwide process ever-increasing quantities of data throughout a global network of several billion devices. Losing data can be devastating for companies – the potential consequences range from losing money and damage to their reputations to having to close down. So in the event of a fire, every second counts. That is why a solid fire safety concept is essential.

Recent technological findings show that malfunctions can occur in hard disk drives (HDDs) when automated dry extinguishing systems are released – due to the high noise level. Having always been a pioneer in the development of advanced extinguishing technologies, Siemens decided to develop products and systems that answer this challenge. With the unique Sinorix™ Silent Extinguishing Technology, Siemens is now offering safe and quiet extinguishing for data centers and server rooms.

Quiet extinguishing is the key

Fire risks in data centers and server rooms

Data centers and server rooms are highly demanding areas. They are filled with state-of-the-art, costly electronic and electrical equipment. The accumulation of hardware, electrical power and extensive cabling poses a continuous risk of potential ignition through overheating or a short circuit. Thousands of plastic components supply plentiful sources of combustible material. In addition, high air flows due to extensive cooling demand the earliest possible detection combined with intelligent extinguishing solutions to ensure comprehensive safety.

Specific challenges for extinguishing systems

Once a dry extinguishing process has been triggered, malfunctions can occur in HDDs. Studies by Siemens and independent organizations show that the main cause is the high noise level generated during the discharge process. To answer this challenge, Siemens specially developed Sinorix Silent Extinguishing Technology – including two solutions that ensure quiet and safe extinguishing in data centers and server rooms.

Sinorix Silent Extinguishing Technology from Siemens

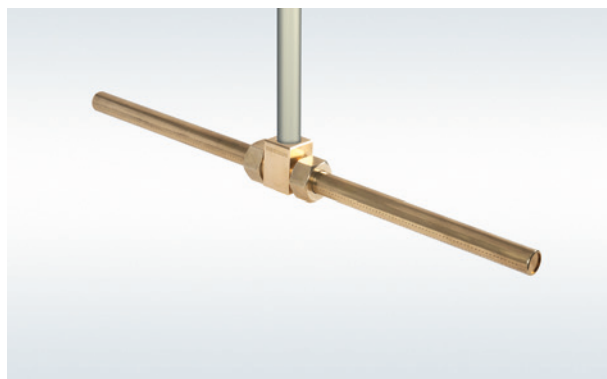
This technology reliably protects IT operations and minimizes the risk of business interruptions following a fire extinguishing system discharge. The heart of the technology is the Sinorix Silent Nozzle. For the reliable protection of smaller server rooms, it was combined with other high-quality components from Siemens in Sinorix Compact – an ideal and cost-effective all-in-one fire safety system. The Sinorix Silent Nozzle also ensures optimized quiet extinguishing in medium- to large-size data centers when paired with the Sinorix CDT (Constant Discharge Technology) extinguishing system.

Relying on longtime experience in the field

Siemens is known for innovation strength, technological leadership and high quality. All products and systems are backed by 160 years of experience in fire safety and in-depth expertise gained through worldwide installations. The comprehensive fire safety portfolio includes all you need for complete safety – from fire detection and alarming to evacuation and extinguishing – and complies with all industry-specific standards and requirements.

Highlights

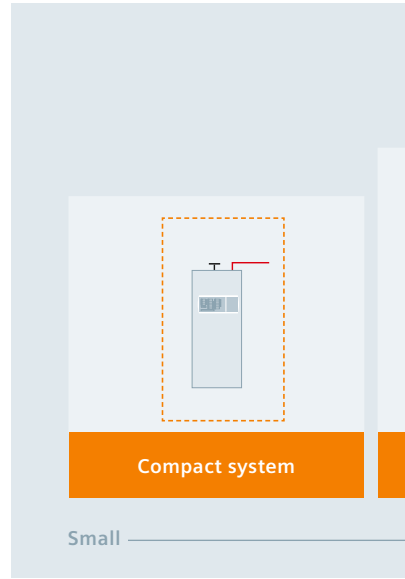
- Intelligent extinguishing for data centers and server rooms
- Sinorix Silent Extinguishing Technology protects HDDs from noise during extinguishing
- Offering includes Sinorix Silent Nozzle, Sinorix Compact and Sinorix CDT
- Based on long-term experience in fire safety from Siemens



Sinorix Silent Nozzle is the heart of Sinorix Silent Extinguishing Technology and reduces the noise level during the extinguishing process.



1 Sinorix Silent Nozzle, 2 Sinorix Compact



Quiet extinguishing at its best – Sinorix Silent Extinguishing Technology

With Sinorix Silent Extinguishing Technology, Siemens developed a unique offering to keep the noise level during a discharge below the level that has been found to pose a risk to HDDs.

Unique nozzle design

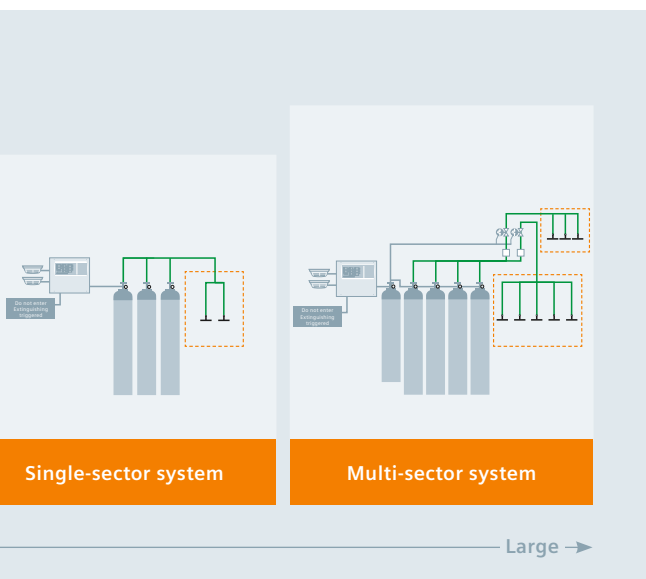
Different factors can help reduce the noise level during a discharge, such as improving the room acoustics or extending the discharge time. Research conducted by Siemens identified the nozzle design as one of the main contributors to reducing the noise.

That is why the Sinorix Silent Nozzle is the heart of Sinorix Silent Extinguishing Technology. Its unique, linear design ensures that the noise level during a discharge remains below the level that poses a risk to HDDs. Additionally, by directing the gas discharge, and hence the sound, in a predefined direction, the Sinorix Silent Nozzle prevents sound-generated HDD malfunctions during extinguishing. Of course, the nozzle also allows smooth and efficient distribution of the extinguishing agent.

Protecting small to large applications

Sinorix Silent Extinguishing Technology is ideal for the reliable protection of server rooms and data centers, from small to large.

Small server rooms up to 120 m³ are optimally protected with Sinorix Compact. The well-designed system provides all-in-one fire safety and is easy to install, commission and maintain. For medium-to large-size data centers, Sinorix CDT is the perfect choice. It can be dimensioned as a single- or multi-sector system, and the cylinder battery can be positioned either centrally or decentrally. Furthermore, Sinorix CDT is suitable for interior rooms with structural restrictions because the size of the overpressure flaps can be reduced by up to 70 percent.



1 Sinorix Silent Nozzle, 2 Sinorix CDT cylinders

All-in-one safety with Sinorix Compact

The Sinorix Silent Nozzle is part of Sinorix Compact. The cost-efficient, space-saving system integrates all fire safety disciplines in one cabinet – fire detection, extinguishing, alarming and control. Its compact design allows the Sinorix Silent Nozzle to be used with 3M™ Novec™ 1230 Fire Protection Fluid, a chemical extinguishing agent.

Constant mass flow with Sinorix CDT

The Sinorix Silent Nozzle can be combined with Sinorix CDT, a regulated extinguishing system that uses nitrogen or argon as extinguishing agent. What makes Sinorix CDT unique is its cylinder valve, which has a pressure-regulating function. It allows the extinguishing agent to be released into the flooding zone at constant mass flow throughout the entire flooding time. This eliminates the peak at the beginning of a discharge and thus lowers the noise level.

Clean extinguishing agents

Sinorix Silent Extinguishing Technology offers extinguishing agents that are safe for people, delicate electronics and the environment. Sinorix Compact uses Novec 1230 fluid, a clean chemical agent that is non-corrosive and non-conductive. It has an ozone depletion potential of 0, a short atmospheric lifetime of 3 to 5 days and a global warming potential of 1. Sinorix CDT uses the natural gases nitrogen and argon, which are naturally present in the ambient air. They have poor electroconductive properties, are chemically inert and do not create any harmful reaction products.

Highlights

- Sinorix Silent Nozzle – unique design reduces the noise level
- Sinorix CDT – quiet extinguishing with no pressure peaks
- Sinorix Compact – all-in-one fire safety system
- Clean extinguishing agents – safe for people, electronic assets and the environment

British Car Auctions Ltd., Farnham, UK

British Car Auctions Ltd., the UK's leading vehicle remarketing company, needed a smart extinguishing solution to reliably protect the highly sensitive HDDs in the data center at their headquarters. They decided to install the combination of Sinorix Silent Nozzle and Sinorix CDT.



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The information in this document contains general descriptions of technical options available, which do not always have to be present in individual cases. The required features should therefore be specified in each individual case at the time of closing the contract.

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Answers for infrastructure and cities.

Our world is undergoing changes that force us to think in new ways: demographic change, urbanization, global warming and resource shortages. Maximum efficiency has top priority – and not only where energy is concerned. In addition, we need to increase comfort for the well-being of users. Also, our need for safety and security is constantly growing. For our customers, success is defined by how well they manage these challenges. Siemens has the answers.

“We are the trusted technology partner for energy-efficient, safe and secure buildings and infrastructure.”